

## RIVERS AND FLOODS.

## FLOODS DURING AUGUST.

By H. C. FRANKENFIELD, Meteorologist.

Moderate floods occurred in the James River, August 21 and August 29, and in the rivers of South Carolina at about the same time. The Saluda River also reached flood stage at Pelzer, S. C., on August 11.

There were unusual crop losses in the lowlands of the Congaree and Wateree Rivers, and some live stock losses were suffered in the swamp regions of the Santee River.

Flood stages were reached in the Apalachicola River at River Junction, Fla., in the Tennessee River at Riverton, Ala., in the Mad River at Springfield, Ohio, in the Trinity River at Dallas, Tex., and in the Rio Grande at Rio Grande City, Tex.

The flood in progress at the end of July in the Columbia River at Marcus, Wash., had subsided by August 3.

## Estimated Loss by Floods.

River and district.	Farms, buildings, machinery, live stock, etc.	Suspension of business.	Value of warnings.	Tangible property, roads, bridges, etc.	Crops.	
					Matured.	Prospective.
Tennessee:						
Cairo, Ill.		\$1,000				\$120,000
Congaree and Wateree:						
Columbia, S. C.	\$3,000	2,700	\$76,000		\$30,000	25,000
Total.	3,000	3,700	76,000		30,000	145,000

## Flood stages during month of August, 1920.

River and district.	Flood stage.	Above flood stages—dates.		Crest.	
		From—	To—	Stage.	Date.
ATLANTIC DRAINAGE.					
James:	Feet.			Feet.	
Columbia, Va.....	18	21	21	25.2	21
Do.....	18	29	29	19.0	29
Richmond, Va.....	10	21	21	11.0	21
Do.....	10	29	29	11.0	29
Roanoke:					
Randolph, Va.....	21	21	21	21.2	21
Weldon, N. C.....	30	22	22	31.3	22
Santee:					
Rimini, S. C.....	12	12	(1)	16.2	31
Ferguson, S. C.....	12	14	(1)	13.7	25
Catawba:					
Catawba, S. C.....	12	28	28	14.6	28
Wateree:					
Camden, S. C.....	{	24	21	24.6	21
		24	28	30	28.6
Congaree:					
Columbia, S. C.....	15	28	28	19.5	28

## Flood stages during month of August, 1920—Continued.

River and district.	Flood stage.	Above flood stages—dates.		Crest.	
		From—	To—	Stage.	Date.
ATLANTIC DRAINAGE—continued.					
<i>Broad:</i>	<i>Feet.</i>			<i>Feet.</i>	
Blairs, S. C. ....	15	19	20	16.4	19
	15	27	28	22.6	27
<i>Saluda:</i>					
Pelzer, S. C. ....	7	11	12	7.0	11, 12
Do. ....	7	19	19	7.0	19
Chappells, S. C. ....	14	20	21	14.6	21
<i>Apalachicola:</i>					
River Junction, Fla. ....	12	15	24	13.4	19, 22
MISSISSIPPI DRAINAGE.					
<i>Mad:</i>					
Springfield, Ohio. ....	10	22	22	10.8	22
<i>Tennessee:</i>					
Riverton, Ala. ....	32	18	21	33.2	20
WEST GULF DRAINAGE.					
<i>Trinity:</i>					
Dallas, Tex. ....	25.0	30	(1)	27.3	31
<i>Rio Grande:</i>					
Rio Grande City, Tex. ....	15.0	25	25	15.0	25
PACIFIC DRAINAGE.					
<i>Columbia:</i>					
Marcus, Wash. ....	24.0	(2)	3	28.5	3 15-19

<sup>1</sup> Continued into September.<sup>2</sup> Continued from July.<sup>3</sup> July.

## MEAN LAKE LEVELS DURING AUGUST, 1920.

By UNITED STATES LAKE SURVEY.

[Dated: Detroit, Mich., Sept. 7, 1920.]

The following data are reported in the "Notice to Mariners" of the above date:

Data.	Lakes. <sup>1</sup>			
	Superior.	Michigan and Huron.	Erie.	Ontario.
	<i>Feet.</i>	<i>Feet.</i>	<i>Feet.</i>	<i>Feet.</i>
Mean level during August, 1920:				
Above mean sea level at New York.	602.93	581.01	572.65	245.62
Above or below—				
Mean stage of July, 1920.	-0.01	-0.02	+0.02	-0.08
Mean stage of August, 1919.	+0.37	-0.13	-0.49	-1.71
Average stage for August, last 10 years.	+0.35	+0.15	0.00	-0.92
Highest recorded August stage.	-1.00	-2.50	-1.46	-2.64
Lowest recorded August stage.	+1.33	+1.16	+1.27	+1.27
Average relation of the August level to—				
July level.		-0.10	-0.20	-0.30
September level.		+0.20	+0.20	+0.40

<sup>1</sup> Lake St. Clair's level: In August, 575.66 feet.